

## REMARKS

Claims 1-20 are pending in the present application. In the above amendments, Claims 1, 3, 7, 8, 12 and 15 have been amended, Claims 5, 6, 14, and 19 have been cancelled, and Claim 21 added. Therefore, after entry of the above amendments, claims 1-4, 7-13, 15-18, 20, and 21 will be pending in this application. Applicants believe that the present application is now in condition for allowance, which prompt and favorable action is respectfully

Claims 1 and 3-5 stand rejected under 35 USC 103(a) as being unpatentable over Siwiak in view of Sickles and Siwiak #2, Dent, or Ishikawa.

Claims 2 and 10 stand rejected under 35 USC 103(a) as being unpatentable over Siwiak in view of Sickles and further in view of Jensen.

Claim 13 stands rejected under 35 USC 103(a) as being unpatentable over Siwiak in view of Sickles and further in view of Blanchard et al..

Claim 19 stands rejected under 35 USC 103(a) as being unpatentable over Siwiak in view of Sickles and further in view Carlsson.

Claims 6-9, 11, and 14-18 stand objected to as being dependent upon rejected base claims but are held allowable if re-written in independent form to include all of the limitations of the base claim and any intervening claims.

Claim 20 was held allowed.

### **103(a) Rejection of Claims 1 and 3-5**

The Examiner stated that Siwiak teaches the use of Doppler correction in a wireless communication system, using a first frequency synthesizer, and a mechanism to adjust the rate of a Doppler compensation signal. The Examiner noted that Siwiak did not teach the use of a counter employing a predetermined rate of change, a second synthesizer, nor a rate input signal generator, but further stated that such elements are disclosed in Siwiak #2 or Sickles. The Examiner stated that those skilled in the art would modify Siwiak to use such elements. The same was stated relative to a lack of teaching by Siwiak in relation to the use of a clock generating means coupled to a Doppler compensation means, or adjusting the rate of change for the Doppler compensation signal in response to a rate input. From this, the Examiner concluded Applicants invention is obvious over the art, and rejected these claims.

Applicants disagree that there is any suggest here to modify Siwiak or that the use of the suggested circuit components present in Siwiak #2 or Sickles would automatically result in the Doppler compensation technique as taught and claimed by Applicants. However, in order to advance the prosecution of the application on its merits to obtain protection against potential infringers at the earliest opportunity, Applicants have amended the claims to include allowable subject matter from allowable dependent Claim 6 as suggested by the Examiner, and preserve their right to use continuation practice to further discuss these issues.

Claim 5 was found to have several informalities in the language and punctuation, so it was cancelled and represented with amended language as new Claim 21 for purposes of clarity in reading.

Therefore, this basis for rejecting claims is now moot and should be withdrawn and the claims passed to issue.

#### **103(a) Rejection of Claims 2 and 10**

The Examiner noted that Siwiak and/or Sickles were both silent regarding the use of a frequency correction apparatus being located in an Earth based gateway, but that Jensen teaches the use of a Doppler extractor located in a ground station. From this the Examiner concluded that it would have been obvious to one skilled in the art to utilize such Doppler extraction in Siwiak and/or Sickles, and thus obviate Applicants' invention.

Applicants believe that the use or mere presence of a Doppler value extractor does not teach nor suggest the use of any other type of time or frequency corrections, especially in relation to code Doppler as claimed, and does not cure the admitted defects of the references in this regard. Therefore, the proposed combination of teaching or references, while not suggested by the art, also cannot make the invention obvious.

However, in order to advance the prosecution of the application on its merits, as stated above, Applicants have amended the claims from which these claims depend (Claim 1) to include allowable subject matter from allowable dependent Claim 6, placing them in allowable form. Therefore, this basis for rejecting claims is now moot and should be withdrawn and the claims passed to issue.

### **103(a) Rejection of Claim 13**

The Examiner noted that Siwiak is silent on teaching the movement of satellites relative to ground stations resulting in code Doppler and its correction. However, the Examiner stated that Blanchard et al teaches computing Doppler based on relative motion and this in combination with Siwiak would provide a means to fully compute Doppler.

Unfortunately, computing Doppler is done on a frequency basis in the art and stating that one can use information gathered to compute Doppler does not address the issue of altering the timing (and frequency) in a manner to adjust for code Doppler. This is not a sufficient teaching nor does it correct for the deficiencies found in the teaching of the other references.

However, in order to advance the prosecution of the application on its merits, as stated above, Applicants have amended the claims from which these claims depend (Claim 12) to include allowable subject matter from an allowable dependent claim (Claim 14), placing them in allowable form. Therefore, this basis for rejecting claims is now moot and should be withdrawn and the claims passed to issue.

### **103(a) Rejection of Claim 19**

The Examiner noted that Siwiak and Sickels were silent on the use of advancing or retarding timing on signal processing elements by a fraction of the PN code chip period. The Examiner stated that Carlsson teaches the use of time of arrival at base stations and the use of offsets of one-half chip periods in the demodulation process. The Examiner then states that it would have been obvious to one skilled in the art to modify Siwiak to use such timing adjustments in order to provide a means to adjust for Doppler compensation by a small fraction of the spreading code. The Examiner concluded that such a combination obviates Applicants' invention.

However, while using one-half chip periods to do signal demodulation is known in the Code Division Multiple Access signal processing art, this is not the same as teaching the use of partial code period shifts, which could also be other values, to adjust for code Doppler. This is simply a technique to lock onto the unknown but fixed timing of detected signals. This is not the same as trying to adjust the signal timing of signals being transferred, actively, in order to compensate for timing changes that occur in those signals as a result of Doppler and

to compensate for such changes as they will impact signals being received at other locations. This fails to teach or suggest changes to Siwiak, which is not concerned with such matters, and does not suggest to anyone such problems, nor a manner in which to adjust for code Doppler involving PN code timing.

However, in order to advance the prosecution of the application on its merits, as stated above, Applicants have amended the claims from which these claims depend (Claim 12) to include allowable subject matter from an allowable dependent claim (Claim 14), placing them in allowable form. Therefore, this basis for rejecting claims is now moot and should be withdrawn and the claims passed to issue.

#### **Objection to Claims 6-9, 11, and 14-18**

As pointed out above, as a matter of expedience and simplicity in altering claim language, the language of Claims 6 and 14 was incorporated into the independent claims (Claims 1, 3, 5; and 12 respectively) rather than the other way around, and some claim dependencies modified to reflect this change. Therefore, Applicants have followed the Examiner's suggestion in modifying these otherwise allowable claims which are now in condition for allowance.

With the remaining allowable claims being dependent upon the amended independent claims, they are also in condition for allowance by virtue of including the same allowable limitations.

Therefore this basis of rejecting the Claims is now moot and should be withdrawn and the claims passed to issue.

#### **Allowed Claim 20**

Since the Examiner has allowed Claim 20, over the art, Applicants believe there are no further actions needed at this time to pass this claim to issue.

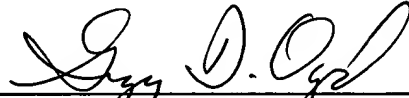
**CONCLUSION**

In light of the amendments contained herein, Applicants submit that the application is in condition for allowance, for which early action is requested.

Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Respectfully submitted,

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By:   
Gregory D. Ogrod, Reg. No. 30,880  
(858) 658-3617

QUALCOMM Incorporated  
Attn: Patent Department  
5775 Morehouse Drive  
San Diego, California 92121-1714  
Telephone: (858) 658-5787  
Facsimile: (858) 658-2502